Software as central element in mixed case palletizing for grocery retail

- **Intelligent software platform WERX as core element.**
- **Artificial intelligence boosts efficiency and reduces manual intervention.**
- **Integrated systems also facilitate the seamless combination of full case and split case picking.**

(Marchtrenk, Austria, July 14, 2025) Grocery retail is characterized by high dynamics, increasing complexity of product ranges and growing customer expectations with regard to delivery speed and availability. High-performance solutions are essential when it comes to efficiently processing large-volume material flows, especially in the field of full case handling. An intelligent software platform plays a central role here, particularly with respect to palletizing.

With over 25 years of specialization in the grocery industry, TGW Logistics is among the leading providers in Europe. As a market leader in the area of systems suited for freezer applications, the intralogistics specialist offers a comprehensive full case product range. "We are in constant contact with our customers. Intensive communication and the ideas that arise from it help us to stay on the cutting edge," explains Michael Schedlbauer, Vice President of Business Development Grocery at TGW Logistics. The full case solutions cover all temperature zones – from dry goods to fresh and frozen foods (-30 °C) – and enable automated handling of pallets, roll cages and thermocontainers.

TGW Logistics builds on technologies developed in-house in all core areas:

- High-performance palletizer: over 700 packing units per hour, modular design, high redundancy and optimal accessibility for maintenance.
- Depalletizing systems with various levels of automation to accommodate different types of packaging
- Highly dynamic shuttle warehouses with trays that can hold multiple SKUs and thus simultaneously allow a higher storage density and flexible picking.

- Exact sequencing directly from the warehouse or via the conveyor system to facilitate the targeted supply of goods for palletizing and further processes.
- Modular software platform WERX for efficient implementation, individually adapted to customer requirements.

"We build our solutions on a broad foundation of experience in the areas of integration, software, warehouse and conveying technology and robotics. This makes us a reliable partner that our customers can count on. TGW Logistics takes care of the efficient operation and maintenance of the system during its entire service life," emphasizes Peter Ehrenhuber, Director of Grocery Retail at TGW Logistics.

Intelligent software platform WERX

The software platform WERX is a central element of every TGW installation. With its team of over 700 specialists, TGW Logistics develops modular software solutions for the control, optimization and visualization of all material flows. Special focus is placed on palletizing software, which guarantees maximum packing density and optimal packaging stability with the help of intelligent algorithms. Software and technology are constantly tested, calibrated and developed further with the help of demo and test systems.

Artificial intelligence boosts efficiency and reduces manual intervention

In the area of depalletizing, TGW Logistics relies on camera-based, self-learning system behavior: with the help of AI algorithms, the system recognizes patterns and analyzes error patterns directly in the visualization. This fuels a continuous learning process that reduces the amount of intervention required from operators by up to 30 percent, which in turn directly affects the system's overall performance.

An intelligent multi-layer approach also comes into play during the creation of the packing plan prior to palletizing. This allows multiple requirements to be considered simultaneously and to be activated or deactivated as needed. The system recognizes any need for optimization based on current capacity utilization. This feature has already proven itself in practice for one of the leading food service providers in the U.S. When it comes to supplying end customers, the duration of stops to unload customer deliveries can be drastically reduced. This increases efficiency along the entire supply chain and strengthens competitiveness.

Security as integral feature – NIS2, KRITIS & IT security

In the face of rising regulatory requirements, e.g. as a result of the NIS2 Directive, as well as the significance of intralogistics as part of critical infrastructure (KRITIS), TGW Logistics is setting high standards in terms of security, availability and data protection – both for customers and for its own system landscape.

"We are making long-term investments in IT security and process reliability," stresses Hans-Peter Dirisamer, Director of Group IT at TGW Logistics. "Our aspiration is to establish sophisticated security structures that will play a preventive role and enable swift reaction in case of emergency. TGW Logistics takes a comprehensive approach that encompasses not only technical but also organizational measures. This includes redundant system architecture, coordinated access regulations, data encryption and continuous monitoring, as well as emergency plans and recovery scenarios whose effectiveness are tested regularly."

Expansion to split case picking: one system, two worlds

With the growth of online business, the requirements associated with picking single items for end customer orders (split case picking) are also on the rise. TGW Logistics has developed solutions just for this situation and has already implemented them at multiple customer sites designed especially for e-commerce. They make it possible to handle over 20,000 units per hour and are suited for delivering to end customers directly or for supplying stores with small lot sizes.

Moreover, TGW Logistics offers integrated systems that seamlessly combine full case and split case picking, allowing the same system to handle both fast-moving and slow-moving items.

This is made possible by:

- Highly dynamic shuttle technology to supply both areas at once
- An external sequencer developed in-house that sorts items intelligently based on target and delivery criteria
- The patented PickCenter One – 1:1 picking workstation with integrated target sequencer for optimized picking order

This integration offers maximum flexibility in the face of changing business models, e.g. in the case of seasonal transitions, changes to the product range, or increasing affiliation with convenience stores.

Brownfield competence: integration during live operation

Not every operator is able or willing to turn to greener pastures. TGW Logistics has extensive brownfield experience to draw on and has already successfully integrated numerous systems into existing buildings and software landscapes – often during live operation. The modular design of the TGW systems makes it possible to insert single functional units into existing infrastructure in a compact and flexible manner, whether as a partial extension or comprehensive modernization. Tried and true methods, comprehensive project planning and experienced realization teams make it possible to accomplish integration with minimal interference in existing processes, all without compromising performance or scalability.

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About TGW Logistics:

TGW Logistics is one of the leading international suppliers of material handling solutions. For over 50 years, the Austrian specialist has implemented highly automated systems for customers, including brands from A as in Adidas to Z as in Zalando. As systems integrator, TGW Logistics plans, produces, implements and services complex logistics centers – from mechatronic products and robots to control systems and software.

TGW Logistics has subsidiaries in Europe, Asia and the U.S. and employs roughly 4,500 people worldwide. In the 2023/24 business year, the company generated a total revenue of 1.07 billion euros.

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